
Obituary.

William Spottiswoode,* President of the Royal Society, was born in 1825. He was formerly connected for many years, and very intimately, with the Royal Institution as its Secretary, and with the British Association as its Treasurer, and otherwise more engaged in scientific administration than any of his contemporaries; he served on the Council of the Royal Geographical Society, and for two years, 1862-64, also fulfilled the duties of Honorary Secretary. He was presumptive heir to a large property, and was educated at Eton, Harrow, and Oxford, but while still residing at the latter place he was suddenly summoned to London to manage under many difficulties the business of his father as Queen's printer. He responded bravely to the appeal, and it is one of the most characteristic points of Mr. Spottiswoode's honourable career that during the whole of the laborious and anxious years of his early manhood he contrived to set aside a considerable portion of each day for scientific and literary pursuits. He thus acquired the art of swift and thorough achievement, by means of which every scrap of his time was utilised. Moreover, having an intellectual insight of the highest order and a singularly sound judgment, all his work stood and the results accumulated. His administrative success became

* By Francis Galton, F.R.S.

No. VIII.—Aug. 1883.]

2 K

so great that it seemed to beget in him an insatiable desire for such labour; his mental grasp was immense, and consequently few have passed lives comparable to his in their usefulness and many-sidedness. He controlled a most important printing establishment; he was one of the foremost of English mathematicians and experimental investigators; he was the leader of scientific society, and through his wide relations with the most gifted persons of various classes his residences in town and in the country became important social centres. He was also actively interested in the well-being of the hundreds of his *employés*, by whom he was warmly beloved and generally looked upon as a personal friend. In short, he lived the fullest of lives and, it is to be feared, too full a one, for he was prematurely overworn, and when at last he was persuaded to take a brief respite from labours by an Italian tour, he was quickly seized upon by the germs of typhoid. He sickened soon after his return home, and died on the 27th of June last, at the comparatively early age of fifty-eight, in the plenitude of his intellectual powers and with a large amount of investigation into the theory of electricity, in progress. He was buried in Westminster Abbey in the presence of a vast concourse of mourners, including a large proportion of those who are most eminent in science, literature, and art, or for their public services.

In this brief notice I shall dwell almost entirely on the geographical tastes that formed one notable side of Mr. Spottiswoode's varied character, and on the geographical and ethnological pursuits that upwards of twenty years ago filled, perhaps, the largest portion of his leisure time. He had, in those days, a passion for Asiatic questions, topographical and philosophical; it had been fostered by many circumstances, one of which was a considerable effort that he had previously made to discover the principles, purposely disguised as they are in fantastic arithmetical "rules," through which Indian astronomers made their calculations, and whether those principles were indigenous or derived from Greek sources. About that time we shared a common interest in many geographical undertakings. We worked together as the two Honorary Secretaries of the Royal Geographical Society, during what we both considered to be a very critical period of its existence, and to which I will not further allude. We also worked together at the Ethnological Society. Again at that time, the Peninsula of Sinai was very imperfectly known and was beginning to attract attention; we had both recently returned from travel, he from his 'Tarantasse Journey through Eastern Russia in 1856,' and I from South Africa, and he started the idea, to which I cordially agreed, that we should together make a survey of Sinai, triangulating the main peaks and giving especial attention to the wilderness of Et Tih. This scheme fell through, owing to a serious illness of my own, but our preparations brought us into daily companionship, reading and noting authorities, studying Arabic and practising surveying, and in the whole of this work his zeal, judgment and thoroughness struck me as truly remarkable. At this time he devised a very useful artificial horizon consisting of a piece of glass floating in a small vessel of mercury, and had it made by one of his own workmen. The principle was afterwards adopted by Captain George, and the instrument is now largely in use under the name of George's Artificial Horizon. He also devised and published in the Journal of the Astronomical Society, a method and accompanying tables for calculating longitude by the meridian altitude of the moon, at times when her declination is rapidly changing. We tried the plan together, and it still appears to me to deserve more attention than it has received, owing to the much greater ease and accuracy with which observations may be made by the sextant when it is held in the easy position suitable for meridian altitudes, than in the constrained or unsupported position usually required for taking lunar distances. A memoir by Mr. Spottiswoode, published in the Royal Geographical Society's Journal, on 'Typical Mountain

Ranges,' is characteristic of his tastes at that time. It is an application of the mathematical laws of probability, with which he was then much interested, to the question whether or no a particular series of mountain ranges running at various known degrees of inclination to one another, could or could not be reasonably ascribed to the same disturbing cause. There are, I fear, few besides myself, now living, who can adequately testify to his keen geographical interests in those days. I can think of three persons at least, who, if they had been alive, would have done so most emphatically. They are Lord Strangford, the profound Oriental geographer and ethnologist, Atkinson, the Siberian traveller, and Dr. Barth, the learned African explorer. Though Mr. Spottiswoode was eminently scientific in his tastes, I cannot help thinking that the charm which geography exercised over him lay more in his love of varied landscape, history, and human character, than in the technically physical part of the science. I do so for many reasons, one of which may be mentioned here since future biographers are not likely to be aware of it, namely the gift he possessed of pictorial imagination. I know from his replies to my questions how vivid it was; it enabled him to do amusing feats of rapid picture-memory of much the same class as those recorded by Houdin the conjuror, about himself and his son.

Concerning the serious mathematical and physical pursuits of his life, upon which his scientific reputation rests, and which together with his personal ascendancy and other noble qualities, raised him, in 1879, to the highest position that a scientific man can hold, that of the official representative of science in England, I shall not speak further except to contribute one biographical jotting. I quote it from a note written to me in answer to a question whether he considered his scientific tastes and success to be due in any respect to personal influences. His reply was "my interest in mathematics began at Oxford, and was due mainly to the energy and encouragement of my tutor Dr. Temple (Bishop of Exeter)." He added on a subsequent occasion, and I pencilled it down from his mouth at the time, "but Professor Donkin first inspired me with a sense of the magnificence of mathematics."

It is with the less regret that I stop here, because I feel that even in a much longer memoir it would be impossible for any one to give within reasonable bounds a just idea of the multifarious and rich results of Mr. Spottiswoode's vast but unobtrusive activity. He loved to do a piece of good work, bringing order out of disorder, efficiency out of entanglement, thoroughly and finally, and then to dismiss it from his mind, and begin afresh on another. He was one of the best and fairest of chairmen. Of the many able scientific men with whom I have had the delight at various times of working, on committees and elsewhere, I have seen none who were his superiors, few, if any, who were his equals, in the art of what I may call constructive, as distinguished from destructive criticism, for he had peculiar skill in detecting and eliminating the faulty elements in any proposed scheme, and in reinforcing the good ones. Thus, although he did not speak much in council, he was regarded as one of the most valued members of every committee on which he was ever called to serve.

Should the life of Mr. Spottiswoode be hereafter written by a competent biographer, his name will assuredly take its place in the national memory as one of those upon whose ability, moral character, and resolute work, the credit of the English nation is mainly founded.

General Sir Edward Sabine, R.A., K.C.B.*—By the recent death of Sir Edward Sabine, at the advanced age of nearly ninety-five years, the Royal Geographical Society has lost an old and distinguished member. Widely known for his active and well-directed researches in the somewhat obscure science of terrestrial magnetism—researches which extended over a period of more than fifty

* By Captain Sir F. J. Evans, K.C.B., F.R.S.